

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
MARKS & CLERK
Attn. ALLMAN, P.
Sussex House
83-85 Mosley Street
MANCHESTER M2 3LG
UNITED KINGDOM

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT
OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing
(day/month/year)

12/10/1999

Applicant's or agent's file reference

PJA/C088175PW0

FOR FURTHER ACTION See paragraphs 1 and 4 below

International application No.

PCT/GB 99/01989

International filing date
(day/month/year)

24/06/1999

Applicant

THE VICTORIA UNIVERSITY OF MANCHESTER et al.

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

Where? Directly to the International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

- ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

- 4. Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90b.1 and 90b.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Marie-Francoise Provot

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
 United States Patent and Trademark
 Office
 Box PCT
 Washington, D.C.20231
 ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year)

25 February 2000 (25.02.00)

International application No.

PCT/GB99/01989

Applicant's or agent's file reference

PJA/CO88175PWO

International filing date (day/month/year)

24 June 1999 (24.06.99)

Priority date (day/month/year)

25 June 1998 (25.06.98)

Applicant

LLOYD, Christopher, James

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

19 January 2000 (19.01.00)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
 34, chemin des Colombettes
 1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Olivia RANAIVOJAONA

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference PJA/C088175PW0	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 99/ 01989	International filing date (day/month/year) 24/06/1999	(Earliest) Priority Date (day/month/year) 25/06/1998
Applicant THE VICTORIA UNIVERSITY OF MANCHESTER et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

2

☐ as suggested by the applicant.

☐ None of the figures.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

INTERNATIONAL SEARCH REPORT

International Application No

CT/GB 99/01989

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 G01N21/64

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 85 03352 A (UNIV STRATHCLYDE) 1 August 1985 (1985-08-01) claims 1,5,7 ---	1,15-17
A	LEGENDRE B L ET AL: "AN ALL SOLID-STATE NEAR-INFRARED TIME-CORRELATED SINGLE PHOTON COUNTING INSTRUMENT FOR DYNAMIC LIFETIME MEASUREMENTS IN DNA SEQUENCING APPLICATIONS" REVIEW OF SCIENTIFIC INSTRUMENTS, vol. 67, no. 11, 1 November 1996 (1996-11-01), pages 3984-3989, XP000635855 ISSN: 0034-6748 page 3985, right-hand column -page 3986, right-hand column --- -/--	1,15-17

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

° Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

5 October 1999

Date of mailing of the international search report

12/10/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Tabellion, M

INTERNATIONAL SEARCH REPORT

International Application No

T/GB 99/01989

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BECKER W ET AL: "FLEXIBLE INSTRUMENT FOR TIME-CORRELATED SINGLE-PHOTON COUNTING" REVIEW OF SCIENTIFIC INSTRUMENTS, vol. 62, no. 12, 1 December 1991 (1991-12-01), pages 2991-2996, XP000278564 ISSN: 0034-6748 page 2991 -page 2992 ---	1,15-17
P,A	WO 99 21063 A (CLARKE DAVID JOHN ;LLOYD CHRISTOPHER JAMES (GB); UNIV MANCHESTER () 29 April 1999 (1999-04-29) cited in the application -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 99/01989

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 8503352 A	01-08-1985	CA 1231250 A	12-01-1988
		DE 3590026 C	12-10-1995
		DE 3590026 T	15-05-1986
		GB 2162943 A, B	12-02-1986
		IT 1183756 B	22-10-1987
		JP 6043962 B	08-06-1994
		JP 61501166 T	12-06-1986
		US 4686371 A	11-08-1987
WO 9921063 A	29-04-1999	AU 9547798 A	10-05-1999

PATENT COOPERATION TREATY



PCT

REC'D 12 SEP 2000

WIPO PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference MH/C088175PWO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB99/01989	International filing date (day/month/year) 24/06/1999	Priority date (day/month/year) 25/06/1998	
International Patent Classification (IPC) or national classification and IPC G01N21/64			
Applicant THE VICTORIA UNIVERSITY OF MANCHESTER et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 3 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input checked="" type="checkbox"/> Certain defects in the international application VIII <input checked="" type="checkbox"/> Certain observations on the international application 			
Date of submission of the demand 19/01/2000		Date of completion of this report - 7. 09. 00	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Huenges, A Telephone No. +49 89 2399 2280 	

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB99/01989

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-8 as originally filed

Claims, No.:

1-17 as received on 27/05/2000 with letter of 23/05/2000

Drawings, sheets:

1/1 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
☒ claims Nos. 16, 17.

because:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB99/01989

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 16, 17 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims 1-15
	No:	Claims
Inventive step (IS)	Yes:	Claims 1-15
	No:	Claims
Industrial applicability (IA)	Yes:	Claims 1-15
	No:	Claims

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB99/01989

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB99/01989

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Claims 16 and 17 do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The subject-matter of said claims is only defined by way of reference to the drawings and the description and not by technical features.

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

- D1: WO 85 03352 A (UNIV STRATHCLYDE) 1 August 1985 (1985-08-01)
- D2: LEGENDRE B L ET AL: 'AN ALL SOLID-STATE NEAR-INFRARED TIME-CORRELATED SINGLE PHOTON COUNTING INSTRUMENT FOR DYNAMIC LIFETIME MEASUREMENTS IN DNA SEQUENCING APPLICATIONS' REVIEW OF SCIENTIFIC INSTRUMENTS, vol. 67, no. 11, 1 November 1996 (1996-11-01), pages 3984-3989, XP000635855 ISSN: 0034-6748
- D3: BECKER W ET AL: 'FLEXIBLE INSTRUMENT FOR TIME-CORRELATED SINGLE-PHOTON COUNTING' REVIEW OF SCIENTIFIC INSTRUMENTS, vol. 62, no. 12, 1 December 1991 (1991-12-01), pages 2991-2996, XP000278564 ISSN: 0034-6748
- D4: WO 99 21063 A (CLARKE DAVID JOHN ;LLOYD CHRISTOPHER JAMES (GB); UNIV MANCHESTER ()) 29 April 1999 (1999-04-29) cited in the application

2. **Claims 1 and 15**

- 2.1. The invention relates to a method (claim 1) and an apparatus (claim 15) for measuring the characteristic response of a medium to an excitation transient in an

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB99/01989

alternative way.

- 2.2. Document D1, which is considered to represent the most relevant state of the art, discloses (cf. page 5, lines 4-13 and page 6, lines 26-33) a method and an apparatus for measuring the fluorescence characteristics of a sample. The fluorescence characteristics is determined by use of a time interval to amplitude converter connected to a device for measuring the excitation pulse profile.
- 2.3. Documents D2 and D3 also relate to the measurement of fluorescence characteristics using time to amplitude converters. Document D4 provides means for measuring time intervals between the emission of successive signals.
- 2.4. The method of **claim 1** differs from the method disclosed in document D1 in that the characteristic response of a medium is obtained by putting the time elapsed between the excitation transient and the emission of each signal in relation to the time interval between the emission of each signal and the preceding signal, the obtained relation representing said characteristic response. Likewise the apparatus of **claim 15** differs from the apparatus disclosed in document D1 by the provision of means for performing the above method.

Concerning the further prior art there is no such solution disclosed nor are there given any hints as to modify a known solution in order to arrive at the invention.

The subject-matter of claims 1 and 15 therefore satisfy the requirements of Art. 33(2) and 33(3) PCT.

2.5. Claims 2-14

Claims 2-14 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

2.6. The industrial applicability of the claims is beyond doubt, Art. 33(4) PCT.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB99/01989

Re Item VII

Certain defects in the international application

1. A document reflecting the prior art described on page 1 is not identified in the description. Furthermore the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein (Rule 5.1(a)(ii) PCT).
2. The description is not in conformity with claim 2 as required by Rule 5.1(a)(iii) PCT.
3. The features of **claim 15** are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
4. **Claims 16 and 17** contain references to the description and the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

Re Item VIII

Certain observations on the international application

Claims 1, 2 and 15 relate to "the interval between each signal and **the preceding signal**" which implies that there is only **one** preceding signal. However it is clear from the description on pages 4, lines 22-28 and figure 2 that the time interval between each signal and **its immediately preceding signal** is meant. This inconsistency between the claims and the description leads to doubt concerning the matter for which protection is sought, thereby rendering the claims unclear (Article 6 PCT).

PCT

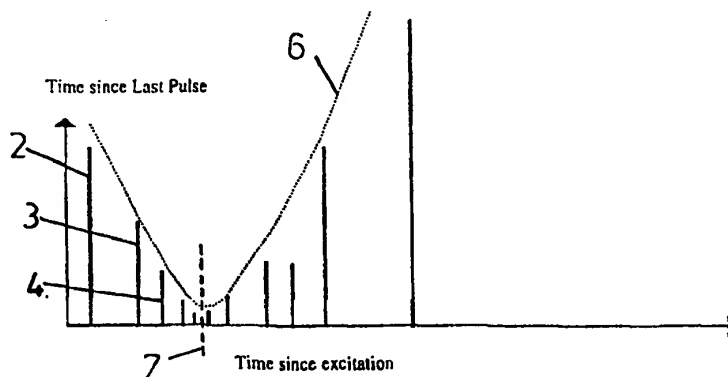
WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : G01N 21/64	A1	(11) International Publication Number: WO 99/67622 (43) International Publication Date: 29 December 1999 (29.12.99)
(21) International Application Number: PCT/GB99/01989 (22) International Filing Date: 24 June 1999 (24.06.99) (30) Priority Data: 9813613.8 25 June 1998 (25.06.98) GB (71) Applicant (for all designated States except US): THE VICTORIA UNIVERSITY OF MANCHESTER [GB/GB]; Oxford Road, Manchester M13 9PL (GB). (72) Inventor; and (75) Inventor/Applicant (for US only): LLOYD, Christopher, James [GB/GB]; Flat 3, 17 Brook Road, Fallowfield, Manchester M14 6UE (GB). (74) Agent: ALLMAN, Peter, John; Marks & Clerk, Sussex House, 83-85 Mosley Street, Manchester M2 3LG (GB).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>

(54) Title: RESPONSE ASSESSMENT



(57) Abstract

A method and apparatus for assessing the characteristic response of a medium to an excitation transient of predetermined duration which causes the medium to emit a series of signals over a period of time which is long relative to the duration of the excitation transient. The signals are detected and the duration of each interval between successive signals is measured. A relationship relating the interval between the excitation transient and the emission of each signal to the interval between each signal and the preceding signal in the series is derived to represent the characteristic response. The interval between the excitation transient and the emission of each signal may be plotted against the interval between each signal and the preceding signal in the series and a curve may be fitted to that plot. The position of a minimum value of the interval between the excitation transient and the emission of each signal as represented by the curve is then determined, and the interval between successive signals corresponding to the position of the minimum is then determined to provide a measure of the characteristic response of the medium. The excitation transient may be a pulse.

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